

# Morphological complexity, recursiveness and templates in the formation of Old English nouns<sup>1</sup>

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Recibido: 28/10/2010

Aceptado: 15/03/2011

## ABSTRACT

The aim of this article is to contribute to the study of the formation of Old English nouns by analysing the morphological complexity and recursiveness that arise in affixal processes of noun formation. On the theoretical side, this article discusses the implications of the description of noun complexity for the morphological template of Old English. The analysis shows that the formation of nouns by means of affixation in Old English is relatively opaque, as well as considerably recursive. It also identifies more separable and less separable prefixes and allows for the assignment of template positions to affixes involved in noun formation. The conclusion is reached that in order to enrich the morphological template of the Layered Structure of the Word with information on pre-derivational inflection, ablaut and phonological conditioning, it is necessary either to list formal conditions in the lexicon or to state them in a productive way.

**Keywords:** Morphology, word-formation, Old English, Layered Structure of the Word

## Complejidad morfológica, recursividad y plantillas en la formación de nombres en inglés antiguo

## RESUMEN

El objetivo de este artículo es contribuir al estudio de la formación de nombres en inglés antiguo analizando la complejidad morfológica y la recursividad propias de los procesos afijales de la formación nominal. Desde un punto de vista teórico, este artículo trata sobre las implicaciones de la descripción de la complejidad del nombre para la plantilla morfológica del inglés antiguo. El análisis muestra que la formación del nombre a través de la afijación en inglés antiguo es relativamente opaca, así como considerablemente recursiva. También identifica los prefijos más separables y menos separables y permite la asignación de las posiciones en la plantilla de los afijos que participan en la formación del nombre. La conclusión a la que se llega es que para enriquecer la plantilla morfológica de la Estructura por Capas de la Palabra con información sobre la flexión pre-derivacional, el ablaut y el condicionamiento fonológico, es necesario o listar las condiciones formales en el lexicon o determinarlas de una manera productiva.

**Palabras clave:** morfología, formación de palabras, inglés antiguo, Estructura por Capas de la Palabra.

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<sup>1</sup> This research has been funded through the project FFI-08-04448/FILO.

**SUMMARY:** 1. State of the art and aims 2. Morphological complexity in the formation of old English nouns 3. Recursiveness in old English noun formation 4. Implications for the morphological template of Old English 5. Conclusion

## 1. STATE OF THE ART AND AIMS

Kastovsky (1992: 294) stresses the productive character of word-formation in Old English in the following quotation:

OE [Old English-EGT] is, from the point of view of its vocabulary, a thoroughly Germanic language. This immediately leads to a second, closely related observation: the vocabulary is characterised by large morphologically related word-families, where the relationship is transparent not only formally but most often also semantically. Put differently, much of the OE vocabulary is derivationally related by productive word-formation patterns.

The same author (1986: 221) points out that “a comprehensive history of English word-formation has still to be written”, thus opening a line of research that has taken two main directions. On the typological side, Kastovsky (1986, 1989, 1990, 1992, 2005, 2006) himself has dealt with the typological shift from stem-formation to word-formation consisting of the replacement of variable bases (stems) with invariable bases (words) in the inflectional and derivational morphology of Old English. In a more theoretical approach, Martín Arista (2008, 2009, 2010a, 2010b, 2010c, 2011a, 2011b, 2011c, fc.-a, fc.-b, fc.-c, fc.-d, fc.-e) has explained the derivational morphology of Old English within a structural-functional theory and put forward a syntagmatic procedure of word-formation based on the layered representation of clause and phrase structure adopted by functional grammars (Foley and Van Valin 1984; Dik 1997a, b; Van Valin and LaPolla 1997; Van Valin 2005).

Given this background, the aim of this article is to contribute to the study of the formation of Old English nouns by analysing the morphological complexity and recursiveness that arise in processes of affixation that turn out members of this lexical category. It is also an aim of this research to discuss the implications that these data have for the morphological template of Old English. The article is organized as follows. Section 2 analyses the different degrees of complexity that arise in the formation of Old English affixal nouns, whereas section 3 discusses the recursive formations that appear in the analysis of such affixal nouns. That is, affixal nouns are dealt with as targets of derivation in section 2 and as sources of derivation in section 3. Section 4 draws the conclusions of the analysis applicable to the structure of the morphological template of Old English. Section 5, to conclude, summarises the main findings of this article.

## 2. MORPHOLOGICAL COMPLEXITY IN THE FORMATION OF OLD ENGLISH NOUNS

The corpus of analysis of this journal article is based on data retrieved from the lexical database of Old English *Nerthus* ([www.nerthusproject.com](http://www.nerthusproject.com)), which contains 30,170 predicates. 16,694 out of these are nouns, which have been analysed morphologically in terms of an inventory of affixes which includes the prefixes *ā- 1*, *ā- 2*, *ǣ-*, *and-*, *ante-*, *arce-*, *be-*, *ed-*, *el-*, *for-*, *in-*, *med-*, *mis-*, *of-*, *on-*, *or-*, *sam-*, *sām-*, *sin-*, *sub-*, *tō-* and *un-*; and the suffixes *-els*, *-en 1*, *-en 2*, *-end*, *-ere*, *-estre*, *-ett*, *-icge*, *-incel*, *-ing 1*, *-ing 2*, *-l*, *-ling*, *-ness*, *-scipe*, and *-t* (based on Mitchell 1985; Kastovsky 1992; and Quirk and Wrenn 1994).<sup>2</sup>

Throughout this analysis, 4,251 basic nouns and 12,443 non-basic nouns have been identified. Within non-basic nouns, 9,091 have been put aside as being the result of compounding. In the next step, it has been found that within the 3,352 non-basic nouns, 351 have been derived by prefixation and 3,001 by suffixation. These figures show, to begin with, that the nominal lexicon of Old English is mainly derived: approximately three quarters of the total amount of nominal predicates are non-basic. Within these, three quarters are compounds and the other quarter consists of affixal nouns, which is tantamount to saying that compounding is much more widespread than affixation for word-formation purposes. Considering affixal nouns, suffixation outnumbers prefixation by a ratio of nearly 9 to 1. Overall, there is no doubt that the formation of Old English nouns is mainly the product of compounding and, when it results from affixation, it is clearly suffixal.

Beginning with prefixes, the prefix *un-* is undoubtedly the most type-frequent: leaving aside problematic cases, nearly one half of the derivatives are *un-*derivatives. The whole hierarchy of prefix type-frequency in noun formation can be rendered as follows: *ā- 2*, *ante-*, *med-*, *sām-*, *sub-* (1) < *arce-* (2) < *ā- 1*, *sam-* (3) < *ǣ-*, *el-* (4) < *be-* (5) < *or-* (6) < *of-* (10) < *for-*, *sin-* (11) < *mis-* (12) < *ed-* (16) < *and-* (18) < *tō-* (19) < *in-* (35) < *on-* (41) < *un-* (146). The analysis has also shown that the bases of derivation of affixal nouns are overwhelmingly nominal, leaving aside the relatively low number of problematic formations (24). In this sense, no hypothetical bases have been required for defining gradual derivations.

Turning to suffixes, the hierarchy of type-frequency in Old English nominal suffixation can be stated in the following terms: *-icge* (9) < *-en 2* (12) < *-incel* (14) < *-ett* (16) < *-ing 1* (18) < *-els* (19) < *-ling* (36) < *-en 1* (42) < *-estre* (47) < *-l* (51) < *-scipe* (99) < *-t* (119) < *-ere* (218) < *-end* 269 < *-ing 2* (898) < *-ness* (1,134). This hierarchy is telling us that two suffixes cluster around them two thirds of the derivatives: *-ing 2* and *-ness*. The former contributes more than one fourth by itself, whereas the latter alone partakes in one third of the derivatives. Unlike prefixes, the bases chosen for the derivation of suffixal nouns are heterogenous. Two thirds belong

<sup>2</sup>*Nerthus* includes numbered predicates which represent two or more predicates with the same form but with morphological and functional differences. Macrons mark long vowels.

to the category Verb, which clearly outnumbers the others as base of suffixed nouns. There are 371 adjectival bases, 241 nominal and 6 adverbial ones.

Another comparison with prefixation is in point here. Considering formal transparency and opaqueness, the suffixation of nouns is more opaque than prefixation. This is probably due to the fact that inflectional and derivational morphemes appear in the postfield of the word, whereas inflectional morphemes, with the exception of the verbal prefix *ge-*, do not take up the word prefield. For this reason, the topics to which this section pays attention cluster around suffixation. In the remainder of the section I deal with formal aspects of suffixation that have an impact on the structure of the morphological template of Old English discussed in section 4. More precisely, I take issue with mutated bases of suffixation, morphonology and pre-derivational inflection. Along with standard abbreviations, the following ones are used: MB (mutated bases), CB (allomorphic or truncated bases), IB (inflective bases), IC (inflectional categories of inflective bases). The results follow by affix and base of derivation. The corresponding derivative follows each base between brackets. The figures represent type analysis.

### **-L**

MB (4): *bēodan* (*bydel* ‘beadle’), *dūf 1* (*ðy:fel* ‘shrub’), *scēotan* (*scytel 1* ‘dart’), *ðrēapian* (*ðrēpel* ‘a torture instrument of three stakes’). CB (3): *ǣmetta* ~ *ǣmet* (*ǣmetla* ‘one at leisure’), *spinnan* ~ *spin* (*spinel* ‘spindle’), *spittan* ~ *spit* (*spitel* ‘small spade’). IB (6): *bēodan* ~ *boden* (*bydel* ‘beadle’), *beran* ~ *byrð* (*byrele* ‘cup-bearer’), *forrīdan* ~ *forrīdon* (*forrīdel* ‘fore-rider’), *giefan* ~ *gaf* (*gafol 1* ‘tribute’), *scēotan* ~ *scuton* (*scytel 1* ‘dart’), *scītan* ~ *sciten* (*scytel 2* ‘excrement’). IC (3): pres. sing., pret. plur.

### **-Els**

MB (1): *smūgan* ~ *smogen* (*smygels* ‘retreat’). CB bases: 0. IB (3): *smūgan* ~ *smogen* (*smygels* ‘retreat’), *spannan* ~ *spenn* (*spennels* ‘clasp’), *wrēon* ~ *wrigen* (*wrigels* ‘covering’). IC (2): pret. sing., pp.

### **-En 1**

MB (4): *broð* (*bryðen* ‘brewing’), *hangian* (*hengen* ‘hanging’), *hund 1* (*hynden* ‘community of 100 men’), *nēahbūr* (*nēahgeby:ren* ‘neighbour’). CB (1): *ðeccan* ~ *ðec* (*ðecen* ‘thatch’). IB (8): *beran* ~ *byrð* (*byrðen 1* ‘burden’, *byrðen 2* ‘burden of sin’), *habban* ~ *hæfde* (*hæfen 1* ‘the having’), *libban* ~ *lifde* (*liften* ‘sustenance’), *magan* ~ *mæg* (*mægen* ‘bodily strength’), *secgan* ~ *sægde* (*segen 1* ‘conversation’), *settan* ~ *set* (*seten* ‘set’), *ðicgan* ~ *ðigen* (*ðigen* ‘receiving’). IC (3): pres. sing., pp., pret. sing.

### **-En 2**

MB (7): *God 1* (*gyden* ‘goddess’), *mann* (*mennen* ‘handmaiden’), *munuc* (*mynecen* ‘female monk’), *scealc* (*scylcen* ‘female servant’), *ðegn* (*ðīnen* ‘maid-servant’), *ðofra* (*ðyften* ‘handmaid’). CB: 0. IB: 0. IC: 0.

### **-End**

MB: 0. CB: 0. IB (2): *wreccan* ~ *wreht* (*wrehtend* ‘instigator’), *wrēgan* ~ *wrēht* (*whrēhtend* ‘accuser’). IC (2): pret. sing., pp.

**-Ere**

MB (1): *hlūtor* (*hly:tere* ‘priest’). CB (1): *ðafettan* ~ *ðafet* (*ðafetere* ‘one who acquiesces in’). IB (8): *beran* ~ *byrð* (*byrðre 1* ‘bearer’, *byrðre 2* ‘child-bearer’), *bisen* ~ *bisne* (*gebisnere* ‘imitator’), *fōdder* ~ *fōdres* (*fōdrere* ‘forager’), *forlicgan* ~ *forligeð* (*forliger 1* ‘adultery’, *forliger 2* ‘whoremonger’), *galdor* ~ *galdre* (*galdre* ‘wizard’), *licgan* ~ *ligeð* (*geligere* ‘concubinage’). IC (3): pres. sing., gen. sing, nom./acc.pl.

**-Estre**

MB: 0. CB (2): *lǣttēow* ~ *lǣttew* (*lǣttewestre* ‘guide’), *timpana* ~ *timp* (*timpestre* ‘female timbrel-player’). IB (2): *beran* ~ *byrð* (*byrðestre* ‘female carrier’), *forsēon* ~ *forsewen* (*forsewestre* ‘female despiser’). IC (2): pres. sing., pp.

**-Ett**

MB (1): *horn* (*hyrnet* ‘hornet’). CB: 0. IB (2): *hēawan* ~ *hīewð* (*hīewet* ‘cutting’), *slēan* ~ *slægen* (*slæget* ‘beating’). IC (2): pres. sing., pp.

**-Icge**

MB: 0. CB: 0. IB (2): *galdricge* ‘enchantress’, *mōdrige* ‘mother’s sister’. IC (2): nom./acc. plur., gen./dat. pl.

**-Incel**

MB: 0. CB: 0. IB (1): *beran* ~ *byrð* (*byrðincel* ‘a little burden’). IC (1): pres. sing.

**-Ing 1**

MB: 0. CB: 0. IB: 0 IC: 0

**-Ing 2**

MB (3): *forswerian* (*forswarung* ‘perjury’), *hrēof* (*hry:fing* ‘scab’), *pǣcan* (*pēcung* ‘deception’). CB (8): *bremman* ~ *brem* (*bremung* ‘roaring’), *clæppettan* ~ *clæppet* (*clæppetung* ‘clapping’), *crācettan* ~ *crācet* (*crācetung* ‘croaking’), *eodro* ~ *edr* (*edring* ‘refuge?’), *fāgettān* ~ *fāget* (*fāgetung* ‘change (of colour)’), *hloccettan* ~ *hloccet* (*hloccetung* ‘sighing’), *sporetan* ~ *sporet* (*sporetung* ‘kicking’), *ðancmettān* ~ *ðancmet* (*ðancmetung* ‘deliberation’). IB (7): *āweorðan* ~ *āwurð* (*āwyrðung* ‘stain’), *frignan* ~ *fregn* (*fregnung* ‘questioning’), *hrēosan* ~ *hrīst* (*hrīstung* ‘quivering’), *ōleccan* ~ *ōlehte* (*ōlehtung* ‘flattery’), *onsittan* ~ *onsǣton* (*onsǣtnung* ‘snare’), *slēan* ~ *slǣt* (*slǣting* ‘right of hunting’), *wīðercweðan* ~ *wīðercweden* (*wīðercwedung* ‘contradiction’). IC (4): pres. sing., pret. plur., pp., pret. sing.

**-Ling**

MB: 0. CB: 0. IB (1): *beran* ~ *byrð* (*byrðling* ‘carrier’). IC (1): pres. sing.

**-Ness**

MB: 0. CB (22): *ǣmelle* ~ *ǣmel* (*ǣmelnes* ‘slackness’), *ānett* ~ *ānet* (*ānetnes* ‘solitude’), *ānwīll* ~ *ānwīl* (*ānwīlnes* ‘self-will’), *cennan* ~ *cen* (*cennes* ‘produce’), *clæman* ~ *clæm* (*clæmnes* ‘torture’), *clypp* ~ *clyp* (*clypnes* ‘embrace’), *eorre* ~ *eor* (*eornes* ‘anger’), *forðryccan* ~ *forðryc* (*forðrycnes* ‘extortion’), *gēancyr* ~ *gēancyr* (*gēancyrnes* ‘meeting’), *giccān* ~ *gic* (*gicenes* ‘itching’), *godðrymm* ~ *godðrym* (*godðrymmnes* ‘divine glory’), *hēahðrymm* ~ *hēahðrym* (*hēahðrymmnes* ‘great glory’), *ierre* ~ *ier* (*iernes* ‘anger’), *mægenðrymm* ~ *mægenðrym* (*mægenðrymmnes* ‘great glory’), *oferfyll* ~ *oferfyl* (*oferfylnes* ‘surfeit’), *sceððan* ~ *sceð* (*sceðnes* ‘hurt’), *sibb* ~ *sib* (*gesibnes* ‘affinity’), *twinn* ~ *twin* (*twinnes* ‘junction’), *ðryccan* ~ *ðryc* (*ðrycnes*

‘tribulation’), *ungewitt* ~ *ungewit* (*ungewitnes* ‘folly’), *unwemme* ~ *unwem* (*unwemnes* ‘purity’), *will* ~ *wil* (*wilnes* ‘desire’). IB (195): *ābelgan* ~ *abolgen* (*ābolgennes* ‘irritation’), *āblinnan* ~ *āblinnende* (*āblinnendnes* ‘cessation’), *āblinnan* ~ *āblinned* (*āblinnednes* ‘cessation’), *ācennan* ~ *ācenned* (*ācennednes* ‘birth’), *ācwellan* ~ *ācwelled* (*ācwellednes* ‘slaughter’), *æfterfylgan* ~ *æfterfylged* (*æfterfylgednes* ‘sequel’), *ætspringan* ~ *ætsprungun* (*ætsprungennes* ‘failing’), *æty:wan* ~ *æty:wed* (*æty:wednes* ‘showing’), *āfierran* ~ *āfierred* (*āfierrednes* ‘removal’), *āfindan* ~ *āfunden* (*āfundennes* ‘invention’), *āfon* ~ *āfangen* (*āfangennes* ‘reception’), *āgēotan* ~ *āgoten* (*āgotenes* ‘effusion’), *āhebban* ~ *āhafen* (*āhafennes* ‘rising’), *ālīesan* ~ *ālīesed* (*ālīesednes* ‘redemption’), *āly:fan* ~ *āly:fed* (*āly:fednes* ‘granting’), *āsecgan* ~ *āsegende* (*āsegendnes* ‘an offering’), *āsettan* ~ *āseted* (*āsetnes* ‘institute’), *āspringan* ~ *āsprungen* (*āsprungennes* ‘failing’), *āstandan* ~ *āstanden* (*āstandennes* ‘perseverance’), *āstregdan* ~ *āstrogdun* (*āstrogdunnes* ‘sprinkling’), *āsty:pan* ~ *āsty:ped* (*āsty:pednes* ‘privation’), *āswindan* ~ *āswunden* (*āswundennes* ‘idleness’), *ātēorian* ~ *ātēorod* (*ātēorodnes* ‘cessation’), *ādindan* ~ *ādunden* (*ādundennes* ‘swelling’), *ādōrotan* ~ *ādōroten* (*ādōrotennes* ‘wearisomeness’), *āweccan* ~ *āweccen* (*āweccenes* ‘incitement’), *āweccan* ~ *āweht* (*āwehtnes* ‘arousing’), *āwemman* ~ *āwemmende* (*āwemmendnes* ‘corruption’), *āwendan* ~ *āwendende* (*āwendendnes* ‘change’), *āweorpan* ~ *āworpen* (*āworpennes* ‘rejection’), *āweorðan* ~ *āworden* (*āwordennes* ‘degeneration’), *āwēstan* ~ *āwēsted* (*āwēstednes* ‘desolation’), *āwiergan* ~ *āwierged* (*āwiergednes* ‘wickedness’), *bebyrgan* ~ *bebyrged* (*bebyrgednes* ‘burial’), *behabban* ~ *behefed* (*behefednes* ‘restraint’), *behealdan* ~ *behalden* (*behealdennes* ‘observance’), *behy:dan* ~ *behy:ded* (*behy:dednes* ‘concealment’), *beran* ~ *berende* (*berendnes* ‘fertility’), *bescierian* ~ *besciered* (*bescierednes* ‘deprivation’), *besmītan* ~ *besmiten* (*besmitenes* ‘soil’), *beswīcan* ~ *beswicen* (*beswicenes* ‘deception’), *betēon* ~ *betogen* (*betogenes* ‘accusation’), *bewrēon* ~ *bewrigen* (*bewrigennes* ‘a covering’), *bīgan* ~ *bīged* (*gebīgednes* ‘inflection’), *bīgan* ~ *bīgende* (*gebīgendnes* ‘inflection’), *bindan* ~ *bunden* (*gebundennes* ‘obligation’), *bry:san* ~ *bry:sed* (*gebry:sednes* ‘bruising’), *byrgan* ~ *byrged* (*gebyrgednes* ‘burial’), *cīegan* ~ *cīged* (*gecīgednes* ‘calling’), *cierran* ~ *cierred* (*gecierrednes* ‘conversion’), *cy:ðan* ~ *cy:ðed* (*gecy:ðednes* ‘testimony’), *derian* ~ *dered* (*gederednes* ‘injury’), *dreccan* ~ *drecced* (*(ge)dreccednes* ‘tribulation’), *dreccan* ~ *dreht* (*gedrehtnes* ‘contrition’), *drēfan* ~ *drēfed* (*(ge)drēfednes* ‘tribulation’), *ēawan* ~ *ēawde* (*ēawdnes* ‘disclosure’), *fēgan* ~ *fēged* (*gefēgednes* ‘conjunction’), *forbærnan* ~ *forbærned* (*forbærnednes* ‘burning’), *forbry:tian* ~ *forbry:ted* (*forbry:tednes* ‘contrition’), *forcierran* ~ *forcierred* (*forcierrednes* ‘perversity’), *fordēman* ~ *fordēmed* (*fordēmednes* ‘condemnation’), *fordrīfan* ~ *fordrifen* (*fordrīfnes* ‘objection’), *forefōn* ~ *forefeng* (*forefengnes* ‘a protective skirting’), *forelēoran* ~ *forelēored* (*forōgelēorednes* ‘departure’), *foresecgan* ~ *foresægde* (*foresægdnes* ‘preface’), *foresettan* ~ *foreseted* (*foresetnes* ‘proposition’), *forǣgan* ~ *forǣged* (*forǣgednes* ‘transgression’), *forǣfan* ~ *forǣfen* (*forǣfenes I* ‘pardon’), *forhogian* ~ *forhogod* (*forhogodnes* ‘contempt’), *forhwierfan* ~ *forhwierfed* (*forhwierfednes* ‘perversity’), *forlætān* ~ *forlætēn* (*forlætēnes* ‘leaving’), *forlēosan* ~ *forloren* (*forlorenes* ‘perdition’), *forlicgan* ~ *forlegen* (*forlegnes* ‘fornication’),

*forlegnis* ‘prostitute’ (2), *forliðan* ~ *forliðen* (*forliðennes* ‘shipwreck’), *forrotian* ~ *forrotod* (*forrotednes* ‘corrupt matter’), *forsacan* ~ *forsacen* (*forsacennes* ‘denial’), *forscrencan* ~ *forscrenced* (*forscrencednes* ‘supplanting’), *forsēon* ~ *forsewen* (*forsewennes* ‘contempt’), *forspillan* ~ *forspilled* (*forspillednes* ‘waste’), *forstregdan* ~ *forstrogden* (*forstrogdnes* ‘headlong descent or fall’), *forsweorcan* ~ *forsworcen* (*forsworcennes* ‘darkening’), *fortrūwian* ~ *fortrūwod* (*fortrūwodnes* ‘presumption’), *forweorðan* ~ *forworden* (*forwordenes* ‘destruction’), *forwiernan* ~ *forwierned* (*forwiernednes* ‘restraint’), *frætwan* ~ *frætwed* (*frætwednes* ‘adorning’), *fremian* ~ *fremed* (*(ge)fremednes* ‘fulfilment’), *fyllan* ~ *fylled* (*gefyllednes* ‘fulness’), *gadrian* ~ *gadered* (*gegaderednes* ‘gathering’), *gēanhweorfan* ~ *gēanhworfen* (*gēanhworfennes* ‘return’), *gītsian* ~ *gītsiende* (*gītsiendnes* ‘avarice’), *grīpan* ~ *gripen* (*gegripennes* ‘seizing’), *habban* ~ *hæbbed* (*hæbbednes* ‘continence’), *hæftian* ~ *hæfted* (*gehæftednes* ‘captivity’), *hrēosan* ~ *hroren* (*gehrorenes* ‘downfall’), *hwyrfan* ~ *hwyrfed* (*gehwyrfednes* ‘inclination’), *insettan* ~ *inseted* (*insetnes* ‘regulation’), *inswōgan* ~ *inswogen* (*inswōgennes* ‘onrush’), *lēoran* ~ *lēored* (*(ge)lēorednes* ‘departure’), *mearu* ~ *mearuw* (*mearuwnes* ‘tenderness’), *mengan* ~ *menged* (*gemengednes* ‘mingling’), *mētan* ~ *mēted* (*gemētednes* ‘finding’), *nerian* ~ *nered* (*generednes* ‘deliverance’), *ofergægan* ~ *ofergæged* (*ofergægednes* ‘transgression’), *oferhogian* ~ *oferhogod* (*oferhogodnes* ‘pride’), *oferseōn* ~ *ofersewen* (*ofersewennes* ‘contempt’), *oferstīgan* ~ *oferstigen* (*oferstigenes* ‘passing over’), *ofertēon* ~ *ofertogen* (*ofertogennes* ‘the condition of being covered’), *ofslean* ~ *ofslegen* (*ofslegennes* ‘slaughter’), *ofsittan* ~ *ofseten* (*ofsetenes* ‘siege’), *ofðryccan* ~ *ofðrycced* (*ofðryccednes* ‘trouble’), *onāsendan* ~ *onāsended* (*onāsendednes* ‘immision’), *onāsettan* ~ *onāseted* (*onāsetednes* ‘a laying on (of hands)’), *onbærnan* ~ *onbærned* (*onbærnednes* ‘incense’), *oncnāwan* ~ *oncnāwen* (*oncnāwennes* ‘acknowledgement’), *onfōn* ~ *onfangen* (*onfangennes* ‘reception’), *onginnan* ~ *ongunnen* (*ongunnes* 1 ‘undertaking’), *onhebban* ~ *onhefde* (*onhefednes* ‘exaltation’), *onhieldan* ~ *onhielded* (*onhieldednes* ‘declining’), *ohnīgan* ~ *ohnīgen* (*ohnīgenes* ‘adoration’), *onhwerfan* ~ *onhwerfed* (*onhwerfednes* ‘change’), *onlīesan* ~ *onlīesed* (*onlīesednes* ‘remission (of sins)’), *onsittan* ~ *onsæton* (*onsætnes* ‘snare’), *onsittan* ~ *onseten* (*onsetenes* ‘laying on (of hands)’), *onspringan* ~ *onsprungon* (*onsprungennes* ‘eclipse’), *onstyrian* ~ *onstyred* (*onstyrednes* ‘movement’), *ontēon* ~ *ontygen* (*ontygenes* ‘accusation’), *onðwēan* ~ *onðwægen* (*onðwægenes* ‘washing’), *onwæcan* ~ *onwæcen* (*onwæcenes* ‘arousing’), *onwegadrīfan* ~ *onwegadrifen* (*onwegadrifennes* ‘a driving away’), *onwendan* ~ *onwended* (*onwendednes* ‘movement’), *onweorpan* ~ *onworpen* (*onworpennes* ‘enticement’), *odīewan* ~ *odīwod* (*odīewodnes* ‘manifestation’), *reccan* ~ *recced* (*(ge)reccednes* ‘narrative’), *sægan* ~ *sæged* (*(ge)sægednes* ‘sacrifice’), *sciëppan* ~ *sceapen* (*gesceapennes* ‘creation’), *screncan* ~ *screnced* (*gescrencednes* ‘tripping up’), *seallan* ~ *seald* (*(ge)sealdnes* ‘act of giving’), *settan* ~ *set* (*(ge)setnes* ‘foundation’), *sittan* ~ *seten* (*gesetennes* ‘sitting’), *streccan* ~ *streced* (*strecednes* ‘bed’), *stregdan* ~ *strægd* (*strægdnes* ‘aspersion’), *stregdan* ~ *strogden* (*(ge)strogdnes* ‘scattering’), *swencan* ~ *swenced* (*geswencednes* ‘trouble’), *swīcan* ~ *swīcen* (*geswīcennes* ‘abstention’), *tēorian* ~ *tēorod* (*tēorodnes* ‘debility’), *tōberan* ~ *tōberen* (*tōberennes* ‘difference’), *tōberstan* ~ *tōborsten* (*tōborstennes*

‘abscess’), *tōblāwan* ~ *tōblāwen* (*tōblāwennes* ‘inflation’), *tōbrǣdan* ~ *tōbrǣded* (*tōbrǣdednes* ‘broadness’), *tōbry:tan* ~ *tōbry:ted* (*tōbry:tednes* ‘contrition’), *tōcnāwan* ~ *tōcnāwen* (*tōcnāwennes* ‘understanding’), *tōcwy:san* ~ *tōcwy:sed* (*tōcwy:sednes* ‘crushed condition’), *tōdǣlan* ~ *tōdǣled* (*tōdǣlednes* ‘division’), *tōdrǣfan* ~ *tōdrǣfed* (*tōdrǣfednes* ‘dispersion’), *tōflōwan* ~ *tōflōwende* (*tōflōwednes* ‘flowing’), *tōforlǣtan* ~ *tōforlǣten* (*tōforlǣtennes* ‘intermission’), *tōgētecan* ~ *tōgēiht* (*tōgēihtnes* ‘addition’), *tōgēotan* ~ *tōgoten* (*tōgotennes* ‘pouring out’), *tōly:san* ~ *tōly:sed* (*tōly:sednes* ‘loosing’), *tōmearcian* ~ *tōmearcod* (*tōmearcodnes* ‘enumeration’), *tōscēadan* ~ *tōscēaded* (*tōscēadednes* ‘separation’), *tōscēadan* ~ *tōscēaden* (*tōscēadenes* ‘separation’), *tōsettan* ~ *tōseted* (*tōsetednes* ‘disposition’), *tōslītan* ~ *tōslīten* (*tōslītnes* ‘laceration’), *tōstencan* ~ *tōstenced* (*tōstencednes* ‘dispersion’), *tōtwǣman* ~ *tōtwǣmed* (*tōtwǣmednes* ‘separation’), *tōðindan* ~ *tōðunden* (*tōðundenes* ‘the state of being puffed up’), *tōweorpan* ~ *tōworpen* (*tōworpennes* ‘subversion’), *tōwritan* ~ *tōwriten* (*tōwritennes* ‘writing down’), *ty:n* ~ *ty:d* (*gety:dnes* ‘edification’), *ðearfan* ~ *ðearfed* (*ðearfednes* ‘poverty’), *ðrǣstan* ~ *ðrǣsted* (*geðrǣstednes* ‘contrition’), *ðryccan* ~ *ðrycced* (*(ge)ðryccednes* ‘distress’), *ðurhfaran* ~ *ðurhfaren* (*ðurhfarennes* ‘inner chamber’), *ðurhtēon* ~ *ðurhtogen* (*ðurhtogennes* ‘a religious reading at monastic meal-times’), *understandan* ~ *understanden* (*understandennes* ‘substance’), *ūpārisan* ~ *ūpārisen* (*ūpārisnes* ‘resurrection’), *ūpāstigan* ~ *ūpāstigen* (*ūpāstigenes* ‘ascent’), *wǣcan* ~ *wǣced* (*gewǣcednes* ‘weakness’), *wemman* ~ *wemmed* (*gewemmednes* ‘defilement’), *wītan* ~ *wītende* (*gewītendnes* ‘departure’), *wītan* ~ *wīten* (*gewītennes* ‘departure’), *wīðcweðan* ~ *wīðcweden* (*wīðcwedennes* ‘contradiction’), *wīðercweðan* ~ *wīðercweden* (*wīðercwidennes* ‘contradiction’), *wīðmetan* ~ *wīðmeten* (*wīðmetennes* ‘comparison’), *wīðsettan* ~ *wīðset* (*wīðsetnes* ‘opposition’), *wrēgan* ~ *wrēged* (*gewrēgednes* ‘accusation’), *wrēon* ~ *wrigen* (*wrigennes* ‘a covering’), *wriðan* ~ *wriðen* (*gewriðennes* ‘binding’), *wy:scan* ~ *wy:sced* (*gewy:scednes* ‘adoption’), *ymsittan* ~ *ymsseten* (*ymssetennes* ‘siege’), *ymsnīðan* ~ *ymsnīden* (*ymsnīdenes* ‘circumcision’), *ymsstandan* ~ *ymsstanden* (*ymsstandennes* ‘encompassing’). IC (7): pp., pres. part., sub., pres. sing., pret. sing., pret. plur., obl.

### -Scipe

MB: 0. CB (2): *bedd* ~ *bed* (*gebedscipe* ‘cohabitation’), *orrettan* ~ *orret* (*orretscipe* ‘infamy’). IB: 0. IC: 0

### -T

MB (10): *āgan 1* (*ǣht 1* ‘possessions’), *drēogan* (*(ge)dryht* ‘multitude’, *gedryht* ‘fortune’), *flēogan* (*flyht* ‘flying’), *hweorfan* (*(ge)hwyrft* ‘turning’), *nugan* (*genyht* ‘abundance’), *plēon* (*pliht* ‘peril’), *tēon 2* (*tiht 1* ‘charge’), *untrum* (*untrymð* ‘weakness’), *wesan 1* (*wist* ‘being’). CB: 0. IB (12): *āgan* ~ *āh* (*ǣht 1* ‘possessions’), *behweorfan* ~ *behwearf* (*behwearft* ‘exchange’), *drēogan* ~ *drogen* (*(ge)dryht* ‘multitude’, *gedryht* ‘fortune’), *flēogan* ~ *flogen* (*flyht* ‘flying’), *habban* ~ *hæfen* (*(ge)hæft 1* ‘bond’), *hweorfan* ~ *hworfen* (*(ge)hwyrft* ‘turning’), *mīgan* ~ *migon* (*migoða* ‘urine’), *nabban* ~ *næfst* (*næft* ‘need’), *plēon* ~ *pleah* (*pliht* ‘peril’), *scrifan* ~ *scrifen* (*scrift* ‘prescribed penalty or penance’), *sēon* ~ *sihð* (*gesiht* ‘faculty or act of sight’). IC (4): pres. sing., pp., pret. plur., pret. sing.



Summarising, mutated bases have been found with the suffixes *-els*, *-ere*, *-ett* (1 instance), *-ing* 2 (3 instances), *-en* 1, *-l* (4 instances), *-en* 2 (7 instances) and *-t* (10 instances). As regards contracted bases, they have turned up in derivatives of the suffixes *-en* 1, *-ere* (1 instance), *-estre*, *-scipe* (2 instances), *-l* (3 instances), *-ing* 2 (8 instances) and *-ness* (22 instances). In a similar vein, inflective bases of suffixation have been found in derivatives of *-incel*, *-ling* (1 instance), *-end*, *-estre*, *-ett*, *-icge* (2 instances), *-els* (3 instances), *-l* (6 instances), *-ing* 2 (7 instances), *-en* 1, *-ere* (8 instances), *-t* (12 instances) and *-ness* (195 instances).

The corresponding analysis of prefixes yields the following results. The only prefix with which *i*-mutated derivatives have turned up is *of-* (1 instance). Contracted bases have appeared in derivatives of the prefixes *and-* and *tō-* (1 instance). Inflective bases have been found with the prefix *on-* only (1 instance). Even though these figures must be considered with reference to the ratio prefixes:suffixes, which is around 9:1, they clearly reflect a higher degree of opaqueness in suffixation than in prefixation. Consequently, the individual phenomena of mutated bases of suffixation, morphonology and pre-derivational inflection constitute relevant factors for the structure of the morphological template of Old English.

### 3. RECURSIVENESS IN OLD ENGLISH NOUN FORMATION

Whereas the previous section has focused on the form of the elements that partake in the formation of Old English nouns, this section concentrates on the number of elements that enter a given process of word-formation. In other words, this section deals with recursive affixation or, more specifically, recursive affixation whose output is an affixal noun.

Even though this is not the only area grammar where recursiveness shows up, recursiveness in the sense of the repetition of a morphological process is a strategy central to the efficient working of lexical creation. I render the results of the study of recursiveness by following the distinction between pre-terminal and terminal word-formation processes (Torre Alonso et al. 2008). The input and output category of pre-terminal processes is Noun. A further distinction is established between prefixation and suffixation. Regarding compounding, it must be borne in mind that when compounding feeds affixation or the other way around there is no recursiveness proper in the sense of repeated application of a rule. Considering the recursiveness of pre-terminal processes, prefixes combine with suffixes only. Each prefix follows with the different suffixes with which it combines (for the sake of brevity, affixes that do not combine with any other affix are not included). The figures between brackets represent token frequency with respect to the affixal pattern, which represent the type in this analysis, but no textual occurrences are considered. An only example is given, if there is more than one occurrence of the pattern in question.

Affix	Prefixes	Suffixes
<i>ǣ-</i> (1)		<i>-ness</i> ( <i>ǣhīwnes</i> ‘pallor’)
<i>ed-</i> (4)		<i>-end</i> (2) ( <i>edlēanend</i> ‘rewarder’) <i>-ing</i> 2 (1) ( <i>edlēanung</i> ‘recompense’) <i>-en</i> (1) ( <i>edwenden</i> ‘change’)
<i>el-</i> (1)		<i>-ing</i> 2 (1) ( <i>elðēodung</i> ‘travel abroad’)
<i>in-</i> (1)		<i>-ness</i> (1) ( <i>ingehygdnes</i> ‘intention’)
<i>on-</i> (4)		<i>-end</i> (1) ( <i>onrǣsend</i> ‘attacker’) <i>-l</i> (1) ( <i>onbringelle</i> ‘instigation’) <i>-ness</i> (2) ( <i>onwealdnes</i> ‘power’)
<i>or-</i> (1)		<i>-scipe</i> (1) ( <i>orðancscipe</i> ‘mechanical art’)
<i>tō-</i> (2)		<i>-ing</i> 2 (1) ( <i>tōsōcnung</i> ‘pursuit’) <i>-ness</i> (1) ( <i>tōsōcnes</i> ‘pursuit’)
<i>un-</i> (11)		<i>-en</i> (1) ( <i>unrǣden</i> ‘ill-considered act’) <i>-ing</i> 2 (3) ( <i>unmiltsung</i> ‘hardness of heart’) <i>-ness</i> (7) ( <i>ungewittnes</i> ‘folly’)

Table 1: Recursiveness in pre-terminal processes (prefixal)

Continuing with the recursiveness of pre-terminal processes, suffixes combine with other suffixes, as well as prefixes:

Affix	Prefixes	Suffixes
<i>-els</i> (2)		<i>for-</i> (1) ( <i>forescyttels</i> ‘bolt’) <i>in-</i> (1) ( <i>inrēcels</i> ‘incense’)
<i>-en</i> 1 (12)		<i>for-</i> (1) ( <i>forebēacen</i> ‘sign’) <i>in-</i> (1) ( <i>inseten</i> ‘an institution’)

<i>sam-</i> (1) ( <i>samrǣden</i> ‘married state’)
<i>sin-</i> (1) ( <i>sinrǣden</i> ‘marriage’)
<i>un-</i> (2) ( <i>unrǣden</i> ‘ill-considered act’)
<i>-ness</i> (5) ( <i>setennes</i> ‘sitting’)
<i>-scipe</i> (1) ( <i>mægenscype</i> ‘might’)
<i>-en</i> 2 (1)
<i>in-</i> (1) ( <i>inðinen</i> ‘female servant’)
<i>-end</i> (7)
<i>on-</i> (2) ( <i>onstīgend</i> ‘mounted man’)
<i>tō-</i> (1) ( <i>tōhlystend</i> ‘listener’)
<i>-ness</i> (4) ( <i>berendnes</i> ‘fertility’)
<i>-ere</i> (2)
<i>in-</i> (1) ( <i>inscēawere</i> ‘inspector’)
<i>un-</i> (1) ( <i>unwrītere</i> ‘incorrect copyist’)
<i>-ett</i> (2)
<i>-ing</i> 2 (2) ( <i>līgetung</i> ‘lighting’)
<i>-ing</i> 1 (1)
<i>un-</i> (1) ( <i>unnīðing</i> ‘honest man’)
<i>-ing</i> 2 (23)
<i>ed-</i> (2) ( <i>edspellung</i> ‘recapitulation’)
<i>for-</i> (3) ( <i>forleornung</i> ‘deception’)
<i>in-</i> (3) ( <i>inēðung</i> ‘inspiration’)
<i>mis-</i> (1) ( <i>miscenning</i> ‘mistake’)
<i>on-</i> (3) ( <i>onbescēawung</i> ‘inspection’)
<i>tō-</i> (2) ( <i>tōhīgung</i> ‘result’)
<i>un-</i> (8) ( <i>unmeltung</i> ‘indigestion’)
<i>-ness</i> (1) ( <i>ungemōdignes</i> ‘contentiousness’)
<i>-ness</i> (23)
<i>and-</i> (1) ( <i>andcȳðnes</i> ‘evidence’)
<i>ed-</i> (1) ( <i>edcēlnes</i> ‘refreshment’)
<i>for-</i> (1) ( <i>forescieldnes</i> ‘protection’)
<i>in-</i> (4) ( <i>indīegelnes</i> ‘hiding-place’)
<i>mis-</i> (1) ( <i>mishealdsumnes</i> ‘carelessness’)
<i>on-</i> (2) ( <i>onsymbelnes</i> ‘celebration (of mass)’)
<i>sin-</i> (1) ( <i>sinwrǣnnes</i> ‘constant lechery’)
<i>tō-</i> (4) ( <i>tōendebyrdnes</i> ‘order’)

<i>un-</i> (8) ( <i>unwīsnas</i> ‘ignorance’)
<i>-scipe</i> (5)
<i>un-</i> (5) ( <i>unwærscipe</i> ‘folly’)
<i>-t</i> (18)
<i>and-</i> (1) ( <i>andwist</i> ‘support’)
<i>be-</i> (1) ( <i>bīwist</i> ‘sustenance’)
<i>ed-</i> (2) ( <i>edgift</i> ‘restitution’)
<i>in-</i> (1) ( <i>insiht</i> ‘narrative’)
<i>on-</i> (1) ( <i>onǣht</i> ‘possession’)
<i>sam-</i> (1) ( <i>samwist</i> ‘living together’)
<i>un-</i> (2) ( <i>ungesǣlō</i> ‘trouble’)
<i>-ere</i> (1) ( <i>plihtere</i> ‘look out man at the prow’)
<i>-incel</i> (1) ( <i>hæftincel</i> ‘slave’)
<i>-ing 1</i> (1) ( <i>hæfting</i> ‘fastening’)
<i>-ing 2</i> (2) ( <i>hæftnung</i> ‘confinement’)
<i>-ling</i> (1) ( <i>hæftling</i> ‘prisoner’)
<i>-scipe</i> (1) ( <i>dryhtscipe</i> ‘lordship’)
<i>-ness</i> (1) ( <i>hwyrftnes</i> ‘return’)
<i>-t</i> (1) ( <i>hæftnoð</i> ‘confinement’)

Table 2: Recursiveness in pre-terminal processes (suffixal)

Turning to the recursiveness of terminal processes, prefixes combine with suffixed forms only. No combination of two prefixes has been found. It is worth remarking that the category of all the bases to which the affixes are attached is Noun:

Affix	Prefixes	Suffixes
<i>ed-</i> (3)		<i>-ing 2<sub>N</sub></i> ( <i>edspellung</i> ‘recapitulation’)
		<i>-ness<sub>N</sub></i> ( <i>edcēlnes</i> ‘refreshment’)
		<i>-t<sub>N</sub></i> ( <i>edgift</i> ‘restitution’)
<i>for-</i> (1)		<i>-ing 2<sub>N</sub></i> ( <i>forscending</i> ‘confusion’)
<i>in-</i> (5)		<i>-els<sub>N</sub></i> ( <i>inrēcels</i> ‘incense’)
		<i>-en 2<sub>N</sub></i> ( <i>inseten</i> ‘an institution’)
		<i>-ere<sub>N</sub></i> ( <i>inscēawere</i> ‘inspector’)
		<i>-ing 2<sub>N</sub></i> ( <i>intrahtnung</i> ‘interpretation’)

	-ness <sub>N</sub> ( <i>inwunenes</i> ‘persistence’)
<i>med-</i> (1)	
	-t <sub>N</sub> ( <i>medsēlð</i> ‘ill-fortune’)
<i>mis-</i> (2)	
	-ing 2 <sub>N</sub> ( <i>miscenning</i> ‘mistake’)
	-ness <sub>N</sub> ( <i>mishealdsumnes</i> ‘carelessness’)
<i>of-</i> (1)	
	-ing 2 <sub>N</sub> ( <i>ofrahtung</i> ‘a pulling out’)
<i>on-</i> (4)	
	-end <sub>N</sub> ( <i>onspillend</i> ‘a player’)
	-ing 2 <sub>N</sub> ( <i>onerning</i> ‘attack’)
	-ness <sub>N</sub> ( <i>ongesetenes</i> ‘knowledge’)
	-t <sub>N</sub> ( <i>onǣht</i> ‘possession’)
<i>sam-</i> (1)	
	-en 1 <sub>N</sub> ( <i>samrǣden</i> ‘married state’)
<i>sin-</i> (2)	
	-en 1 <sub>N</sub> ( <i>sinrǣden</i> ‘married state’)
	-ness <sub>N</sub> ( <i>sinwrǣnnes</i> ‘constant lechery’)
<i>tō-</i> (3)	
	-end <sub>N</sub> ( <i>tōhlystend</i> ‘listener’)
	-ing 2 <sub>N</sub> ( <i>tōclypung I</i> ‘calling upon’)
	-ness <sub>N</sub> ( <i>tōendebyrdnes</i> order’)
<i>un-</i> (6)	
	-en 1 <sub>N</sub> ( <i>unrǣden</i> ‘ill-considered act’)
	-ere <sub>N</sub> ( <i>unwrītere</i> ‘incorrect copyist’)
	-ing 2 <sub>N</sub> ( <i>unblētsung</i> ‘curse’)
	-ness <sub>N</sub> ( <i>ungehīrsumnes</i> ‘disobedience’)
	-scipe <sub>N</sub> ( <i>unarodscipe</i> ‘remissness’)
	-t <sub>N</sub> ( <i>unsǣlð</i> ‘unhappiness’)

Table 3: Recursiveness in terminal processes (prefixal)

As in pre-terminal processes, recursive formations with suffixes in terminal processes can involve both prefixes and suffixes. More importantly, bases can be not only nominal but also verbal and adjectival. As a matter of fact, verbal bases are the most frequent, followed by adjectival bases and nominal bases. This is shown by Table 4:

Affix	Prefixes	Suffixes
-en	1 (4)	
	<i>be-</i> <sub>V</sub> ( <i>begīmen</i> ‘attention’)	
	<i>ed-</i> <sub>V</sub> ( <i>edwenden</i> ‘change’)	
		<i>-cian</i> <sub>V</sub> ( <i>twicen</i> ‘junction of roads’)
		<i>-lian</i> <sub>V</sub> ( <i>midlen I</i> ‘middle’)
-end	(21)	
	<i>ā-</i> <sub>V</sub> ( <i>ācennend</i> ‘parent’)	
	<i>æfter-</i> <sub>V</sub> ( <i>æfterfylgend</i> ‘follower’)	
	<i>æg-</i> <sub>V</sub> ( <i>ōlectend</i> ‘flattery’)	
	<i>be-</i> <sub>V</sub> ( <i>behealdend</i> ‘beholder’)	
	<i>ed-</i> <sub>V</sub> ( <i>edgyldend</i> ‘remunerator’)	
	<i>for-</i> <sub>V</sub> ( <i>forhergend</i> ‘ravager’)	
	<i>in-</i> <sub>V</sub> ( <i>inlīhtend</i> ‘illuminator’)	
	<i>ofer-</i> <sub>V</sub> ( <i>onhyrgend</i> ‘emulator’)	
	<i>on-</i> <sub>V</sub> ( <i>onsecgend</i> ‘sacrificer’)	
	<i>tō-</i> <sub>V</sub> ( <i>tōstencend</i> ‘prodigal’)	
	<i>un-</i> <sub>V</sub> ( <i>unrihtæmend</i> ‘adulterer’)	
	<i>under-</i> <sub>V</sub> ( <i>underfōnd</i> ‘one who takes anything in charge’)	
	<i>ūp-</i> <sub>V</sub> ( <i>ūpstīgend</i> ‘one who mounts up’)	
	<i>ymb-</i> <sub>V</sub> ( <i>ymbhringend</i> ‘attendant member of a retinue’)	
	<i>un-</i> <sub>Adj</sub> ( <i>unwemmend</i> ‘innocent man’)	
		<i>-cian</i> <sub>V</sub> ( <i>elciend</i> ‘procrastinator’)
		<i>-ettan</i> <sub>V</sub> ( <i>hālettend</i> ‘middle’)
		<i>-lian</i> <sub>V</sub> ( <i>wordliend</i> ‘speaker’)
		<i>-nian</i> <sub>V</sub> ( <i>wītnigend</i> ‘punisher’)
		<i>-sian</i> <sub>V</sub> ( <i>wissiend</i> ‘governor’)
-ere	(10)	
	<i>æfter-</i> <sub>V</sub> ( <i>æfterfolgere</i> ‘follower’)	
	<i>æg-</i> <sub>V</sub> ( <i>ōleccere</i> ‘flatterer’)	
	<i>and-</i> <sub>V</sub> ( <i>andettere</i> ‘one who confesses’)	
	<i>be-</i> <sub>V</sub> ( <i>becweðere</i> ‘interpreter’)	
	<i>for-</i> <sub>V</sub> ( <i>forlētere</i> ‘a forsaker’)	
		<i>-cian</i> <sub>V</sub> ( <i>twiccere</i> ‘divider’)
		<i>-ettan</i> <sub>V</sub> ( <i>līcettere</i> ‘deceiver’)
		<i>-nian</i> <sub>V</sub> ( <i>āgnere</i> ‘owner’)

	<i>-sian<sub>V</sub></i> ( <i>gītserē</i> ‘miser’)
grammarian’)	<i>-īc<sub>Adj</sub></i> ( <i>grammaticere</i> ’)
<i>-estre</i> (3)	
	<i>be-<sub>V</sub></i> ( <i>bepæcestre</i> ‘whore’)
	<i>for-<sub>V</sub></i> ( <i>forsewestre</i> ‘female despiser’)
	<i>-nian<sub>V</sub></i> ( <i>lācnystre</i> ‘physician’)
<i>-ett</i> (3)	
	<i>for-<sub>V</sub></i> ( <i>forgrindet</i> ‘grinding’)
	<i>on-<sub>V</sub></i> ( <i>onælet</i> ‘lighting’)
	<i>-nian<sub>V</sub></i> ( <i>āgnett</i> ‘interest’)
<i>-icge</i> (1)	
	<i>ā-<sub>V</sub></i> ( <i>ācennicge</i> ‘mother’)
<i>-incel</i> (1)	
	<i>-en</i> <sub>2N</sub> ( <i>wilnincel</i> ‘a little female servant’)
<i>-ing</i> 2 (34)	
	<i>for-<sub>N</sub></i> ( <i>forescȳwung</i> ‘overshadowing’)
	<i>tō-<sub>N</sub></i> ( <i>tōsōcnung</i> ‘pursuit’)
	<i>un-<sub>N</sub></i> ( <i>unscyldegung</i> ‘innocence’)
	<i>ā-<sub>V</sub></i> ( <i>ābirging</i> ‘taste’)
	<i>æfter-<sub>V</sub></i> ( <i>æfterfylgung</i> ‘pursuit’)
	<i>æg-<sub>V</sub></i> ( <i>ōleccung</i> ‘soothing’)
	<i>be-<sub>V</sub></i> ( <i>bewerung</i> ‘defence’)
	<i>ed-<sub>V</sub></i> ( <i>edlæcung</i> ‘repetition’)
	<i>efen-<sub>V</sub></i> ( <i>efensārgung</i> ‘sympathy’)
	<i>for-<sub>V</sub></i> ( <i>forcierring</i> ‘turning aside’)
	<i>forð-<sub>V</sub></i> ( <i>forðfēring</i> ‘death’)
	<i>in-<sub>V</sub></i> ( <i>incēgung</i> ‘invocation’)
	<i>mis-<sub>V</sub></i> ( <i>misfadung</i> ‘misconduct’)
	<i>of-<sub>V</sub></i> ( <i>ofearmung</i> ‘compassion’)
	<i>ofer-<sub>V</sub></i> ( <i>oferheling</i> ‘covering’)
	<i>on-<sub>V</sub></i> ( <i>oncunning</i> ‘accusation’)
	<i>or-<sub>V</sub></i> ( <i>ortrūwung</i> ‘despair’)
	<i>oð-<sub>V</sub></i> ( <i>ætspornung</i> ‘offence’)
	<i>tō-<sub>V</sub></i> ( <i>tōbryting</i> ‘crushing’)
	<i>ðurh-<sub>V</sub></i> ( <i>ðurhwunung</i> ‘perseverance’)
	<i>un-<sub>V</sub></i> ( <i>unhādung</i> ‘exordinatio’)

<i>under</i> - <i>v</i> ( <i>understanding</i> ‘understanding’)
<i>ūp</i> - <i>v</i> ( <i>ūphebbing</i> ‘uprising’)
<i>ūð</i> - <i>v</i> ( <i>ūðwitegung</i> ‘philosophy’)
<i>wið</i> - <i>v</i> ( <i>wiðsacung</i> ‘denial’)
<i>wiðer</i> - <i>v</i> ( <i>wiðersacung</i> ‘apostasy’)
<i>ymb</i> - <i>v</i> ( <i>ymbclypping</i> ‘embracing’)
<i>-cian</i> <sub><i>v</i></sub> ( <i>elcung</i> ‘delay’)
<i>-erian</i> <sub><i>v</i></sub> ( <i>dydrung</i> ‘delusion’)
<i>-ettan</i> <sub><i>v</i></sub> ( <i>gealpettung</i> ‘boastfulness’)
<i>-lian</i> <sub><i>v</i></sub> ( <i>wordlung</i> ‘talk’)
<i>-nian</i> <sub><i>v</i></sub> ( <i>cōcnung</i> ‘seasoning’)
<i>-sian</i> <sub><i>v</i></sub> ( <i>geocsung</i> ‘sobbing’)
<i>-lic</i> <sub><i>Adj</i></sub> ( <i>metlicung</i> ‘adjustment’)
<i>-l</i> (3)
<i>on</i> - <i>N</i> ( <i>onbringelle</i> ‘instigation’)
<i>and</i> - <i>v</i> ( <i>andetla</i> ‘declaration’)
<i>be</i> - <i>v</i> ( <i>bīgyrdel</i> ‘girdle’)
<i>-ling</i> (1)
<i>in</i> - <i>N</i> ( <i>inbyrdling</i> ‘slave born in a master’s house’)
<i>-ness</i> (53)
<i>in</i> - <i>N</i> ( <i>ingehygdnes</i> ‘intention’)
<i>on</i> - <i>N</i> ( <i>ontimbernes</i> ‘material’)
<i>tō</i> - <i>N</i> ( <i>tōsōcnes</i> ‘pursuit’)
<i>un</i> - <i>N</i> ( <i>ungewitnes</i> ‘folly’)
<i>ā</i> - <i>v</i> ( <i>ālīesnes</i> ‘redemption’)
<i>æfter</i> - <i>v</i> ( <i>æfterfylgednes</i> ‘sequel’)
<i>and</i> - <i>v</i> ( <i>andspurnes</i> ‘offence’)
<i>be</i> - <i>v</i> ( <i>behealdennes</i> ‘observance’)
<i>eſen</i> - <i>v</i> ( <i>eſenherenes</i> ‘praising together’)
<i>for</i> - <i>v</i> ( <i>forgiefednes</i> ‘forgiveness’)
<i>forð</i> - <i>v</i> ( <i>forðſērednes</i> ‘death’)
<i>in</i> - <i>v</i> ( <i>inlīhtnes</i> ‘illumination’)
<i>of</i> - <i>v</i> ( <i>ofgeſtīgnes</i> ‘descent’)
<i>ofer</i> - <i>v</i> ( <i>oferflōwednes</i> ‘excess’)
<i>on</i> - <i>v</i> ( <i>onhyrenes</i> ‘imitation’)
<i>oð</i> - <i>v</i> ( <i>oðtewodnes</i> ‘manifestation’)



<i>tō</i> - <i>v</i> ( <i>tōdǣlednes</i> ‘division’)
<i>ðurh</i> - <i>v</i> ( <i>ðurhwunenes</i> ‘perseverance’)
<i>un</i> - <i>v</i> ( <i>unðwǣrnes</i> ‘discord’),
<i>under</i> - <i>v</i> ( <i>understandennes</i> ‘substantia’)
<i>ūp</i> - <i>v</i> ( <i>ūpārisnes</i> ‘resurrection’)
<i>wið</i> - <i>v</i> ( <i>wiðlǣdnes</i> ‘abduction’),
<i>wiðer</i> - <i>v</i> ( <i>wiðcwedennes</i> ‘contradiction’),
<i>ymb</i> - <i>v</i> ( <i>ymbceorfnes</i> ‘circumcision’)
<i>ǣ</i> - <i>Adj</i> ( <i>ǣmelnes</i> ‘slackness’)
<i>and</i> - <i>Adj</i> ( <i>andwīsnes</i> ‘experience’)
<i>be</i> - <i>Adj</i> ( <i>behēfnes</i> ‘convenience’)
<i>eft</i> - <i>Adj</i> ( <i>eftācennednes</i> ‘regeneration’)
<i>in</i> - <i>Adj</i> ( <i>inlendiscnes</i> ‘habitation’)
<i>med</i> - <i>Adj</i> ( <i>medtrumnes</i> ‘weakness’)
<i>ofer</i> - <i>Adj</i> ( <i>oferetolnes</i> ‘gluttony’)
<i>on</i> - <i>Adj</i> ( <i>onwealhnes</i> ‘soundness’)
<i>or</i> - <i>Adj</i> ( <i>orcēasnes</i> ‘immunity’)
<i>un</i> - <i>Adj</i> ( <i>unðæslicnes</i> ‘impropriety’)
<i>-l</i> <sub>N</sub> ( <i>trendelnes</i> ‘circuit’)
<i>-ett</i> <sub>N</sub> ( <i>ānetnes</i> ‘solitude’)
<i>-ing</i> 2 <sub>N</sub> ( <i>fyrðringnes</i> ‘furtherance’)
<i>-t</i> <sub>N</sub> ( <i>hwyrftnes</i> ‘return’)
<i>-nian</i> <sub>V</sub> ( <i>gēannes</i> ‘meeting’)
<i>-sian</i> <sub>V</sub> ( <i>gītsiendnes</i> ‘avarice’)
<i>-el</i> <sub>Adj</sub> ( <i>etolnes</i> ‘greediness’)
<i>-en</i> <sub>Adj</sub> ( <i>ǣtrennes</i> ‘poisonous nature’)
<i>-fæst</i> <sub>Adj</sub> ( <i>rǣdfæstnes</i> ‘reasonableness’)
<i>-feald</i> <sub>Adj</sub> ( <i>felafealdnes</i> ‘multitude’)
<i>-ig</i> <sub>Adj</sub> ( <i>elðēodignes</i> ‘foreign travel’)
<i>-iht</i> <sub>Adj</sub> ( <i>wearihtnes</i> ‘roughness of skin’)
<i>-isc</i> <sub>Adj</sub> ( <i>inlendiscnes</i> ‘habitation’)
<i>-lic</i> <sub>Adj</sub> ( <i>godcundlicnes</i> ‘divine nature’)
<i>-or</i> <sub>Adj</sub> ( <i>gēomornes</i> ‘tribulation’)
<i>-sum</i> <sub>Adj</sub> ( <i>healdsumnes</i> ‘keeping’)
<i>-weard</i> <sub>Adj</sub> ( <i>æfweardnes</i> ‘absence’)
<i>-scipe</i> (4)

<i>sin</i> <sub>-N</sub> ( <i>sinhīwscipe</i> ‘permanent tie (marriage)’)
<i>un</i> <sub>-Adj</sub> ( <i>unglēawscipe</i> ‘folly’)
<i>-ettan</i> ( <i>orretscipe</i> ‘infamy’)
<i>-en</i> ( <i>liefenscipe</i> ‘justification’)
<i>-t</i> (10)
<i>un</i> <sub>-N</sub> ( <i>uns ælō</i> ‘unhappiness’)
<i>ā</i> <sub>-V</sub> ( <i>ærist</i> ‘rising’)
<i>be</i> <sub>-V</sub> ( <i>behwearft</i> ‘exchange’)
<i>ed</i> <sub>-V</sub> ( <i>edhwyrft</i> ‘change’)
<i>on</i> <sub>-V</sub> ( <i>oncȳðð</i> ‘pain’)
<i>be</i> <sub>-Adj</sub> ( <i>behēfðu</i> ‘want’)
<i>or</i> <sub>-Adj</sub> ( <i>orfyrmd</i> ‘refuse’)
<i>un</i> <sub>-Adj</sub> ( <i>ungetrēowð</i> ‘unfaithfulness’)
<i>-nian</i> <sub>V</sub> ( <i>hæfnoð</i> ‘confinement’)
<i>-lēas</i> <sub>Adj</sub> ( <i>ārlēast</i> ‘disgraceful deed’)

Table 4: Recursiveness in terminal processes (suffixal)

On the grounds of the data provided by tables 1-4, the following hierarchy of recursiveness of prefixes in the formation of nouns can be proposed: *æ-* (1) > *el-* (1) > *for-* (1) > *med-* (1) > *of-* (1) > *or-* (1) > *sam-* (1) > *mis-* (2) > *sin-* (2) > *tō-* (5) > *ed-* (7) > *on-* (8) > *in-* (11) > *un-* (17). Regarding suffixes, they can be ranked along a hierarchy of recursiveness of the following form: *-icge* (1) > *-incel* (1) > *-ing* 1 (1) > *-en* 2 (1) > *-ling* (1) > *-els* (2) > *-estre* (3) > *-l* (3) > *-ett* (5) > *-scipe* (9) > *-ere* (12) > *-en* 1 (16) > *-end* (28) > *-t* (28) > *-ing* 2 (57) > *-ness* (76). In general, recursiveness is a function of type frequency. Indeed, the most type-frequent affixes take part in more patterns of recursiveness.

Along with this hierarchy, the following conclusions can be drawn from this analysis. The first conclusion is that the affixation that turns out nouns in Old English is recursive in different degrees: suffixation is more recursive than prefixation, while terminal affixation is more recursive than non-terminal affixation. Although it is typical of a suffixal language like Old English that suffixes combine more freely than prefixes, I have shown that recursiveness is higher in suffixation in qualitative as well as on quantitative grounds. Firstly, prefixes can combine with suffixes only whereas suffixes can attach to words that have been previously prefixed or suffixed. Secondly, more suffixes than prefixes are attached to previously derived words. Thirdly, such derived words result from the attachment of a higher number of different affixes. And, fourthly, the derived words in question belong to more different categories. Table 5 provides the quantitative evidence in point. Column A gives the number of different affixes that are attached to already derived words. Column B shows the

number of recursive formations to which the affixes are attached. And column C lists the categories of the derived words to which the affixes under scrutiny are attached:

	A	B	C
Pre-terminal prefixation	8	25	Noun
Pre-terminal suffixation	11	96	Noun
Terminal prefixation	11	29	Noun
Terminal suffixation	13	148	Noun, Verb, Adjective

Table 5: General assessment of recursiveness in affixal nouns

#### 4. IMPLICATIONS FOR THE MORPHOLOGICAL TEMPLATE OF OLD ENGLISH

After reporting the descriptive analysis that has been carried out, this section turns to more theoretical aspects related to the structure of the complex word in Old English and discusses the implications of the evidence gathered in sections 2 and 3 for the morphological template of Old English. The first part of the discussion that follows concentrates on formal aspects while the second focuses on the recursive operation of derivational processes.

Structural-functional morphology (Martín Arista 2008, 2009) has put forward a model of morphological template that assigns positions with respect to the Nucleus of the word to the hierarchically-arranged constituents and operators of the Layered Structure of the Word (LSW). The semantic domains of the LSW include the Nucleus, the Core, the Word and the Complex Word. In terms of hierarchy, the node Complex Word dominates the nodes Word, Core and Nucleus. The node Complex Word directly dominates the node Word, and the node Word directly dominates the node Core, which, in turn, directly dominates the node Nucleus. In terms of dependence, the arguments depend on the Nucleus inside the Core, whereas a Periphery can be associated to a Core. This is shown by figure 1:

[ [ [ [ ]<sub>NUC</sub> [ ]<sub>ARG</sub> [ ]<sub>ARG</sub> ]<sub>CORE</sub> [ ]<sub>PERIPHERY</sub> ]<sub>WORD</sub> ]<sub>COMPLEX WORD</sub>

Figure 1: The Constituent Projection of the LSW

Each layer has its own operators, governed by a principle of scope which stipulates that

scope over outer layers implies scope over the inner layers, as is represented by figure 2:

< [ < [ < [ [ ]<sub>NUC</sub> [ ]<sub>ARG</sub> [ ]<sub>ARG</sub> ]<sub>CORE</sub> >OP<sub>CORE</sub> ]<sub>WORD</sub> >OP<sub>W</sub> ]<sub>COMPLEX WORD</sub> >OP<sub>CW</sub>

Figure 2: The Constituent and the Operator Projection of the LSW

The assignment of word functions rests upon the concept of syntactic correlate word constituents with a syntactic correlate perform the functions of Nucleus, Argument and Periphery. Other elements, both of the derivational and the inflectional

type are represented as operators. The LSW does not assign structural positions and, consequently, a set of rules and principles is proposed that guarantee the required form and position of word constituents, which is displayed by a morphological template of the form presented by figure 3:

[PREFIELD 2] [PREFIELD 1] NUCLEUS [POSTFIELD 1] [POSTFIELD 2]

Figure 3: The morphological template of Old English

Language-specific morphological templates are proposed deductively by analysing the combinations of units and the different degrees of complexity exhibited by derived words. In figure 4, a maximal projection on a single nucleus is represented in its template:

[un] [ful] frem [ed] [nes]

Figure 4: The morphological template of *unfulfremednes* ‘imperfection’

In its present state, the LSW requires lexical items ready for derivation without further formal modification. A thorough analysis of the data, however, evidences that it is often the case that phonological and morphological processes overlap, which implies that the LSW should be re-interpreted or extended in order to accommodate some phonological and inflectional phenomena. Beginning with inflection, the brief review of the LSW offered above has shown that inflectional morphology does not take up word positions, which has the important consequence of requiring a productive model of pre-derivational morphology. In other words, the inflective bases of the instances that follow receive inflection productively, instead of being listed as such in the lexicon. In (1) bases are classified by category:

(1)

a. Nominal bases:

**Nominative:** *æhīw* ‘pallor’ > *æhīwnes* ‘pallor’

**Nominative/Accusative plural:** *galdor* ~ *galdre* ‘sound’ > *galdre* ‘wizard’

**Genitive:** *bisen* ~ *bisne* ‘example’ > *gebisnere* ‘imitator’

**Genitive/Dative plural:** *mōdor* ‘mother’ > *mōdrige* ‘mother’s sister’

b. Adjectival bases:

**Positive:** *mennisc 1* ‘human’ > *menniscnes* ‘state of human’

**Oblique:** *mearu* ~ *mearuw-* ‘tender’ > *mearuwnes* ‘tenderness’

c. Verbal bases:

**Infinitive:** (*ge*)*pīnian* ‘to torture’ > *pīnung* ‘torment’

**Present singular:** *behweorfan* ~ *bewhearf* ‘to turn’ > *behwearft* ‘exchange’

**Preterite plural:** *onsittan 2* ~ *onsæton* ‘to fear’ > *onsætnung* ‘snare’

**Present Participle:** *āblinnan* ~ *āblinnende* ‘to cease’ > *āblinnendnes* ‘cessation’

**Past Participle:** *ābelgan* ~ *ābolgen* ‘to make angry’ > *ābolgennes* ‘irritation’

The issue of Ablaut arises next. Following Kastovsky (2006), I do not consider Ablaut alternations productive, which means that they must be listed in the lexicon if they do not result from the inflection of the strong verb. Relevant examples by strong verb class are given in (2):

(2)

- class I:** *(ge)tēon I* ‘to pull’ > *tiht I* ‘charge’  
**class II:** *scēotan* ‘to shoot’ > *scytel I* ‘dart’  
**class III:** *(ge)hweorfan* ‘to turn’ > *(ge)hwyrft* ‘turning’  
**class V:** *plēon* ‘to expose to danger’ > *pliht* ‘peril’  
**class VI:** *forswerian* ‘to swear falsely’ > *forswarung* ‘perjury’  
**class VII:** *ymbspannan* ‘to span or clasp round’ > *ymbspænnung* ‘allurement’

While pre-derivational inflection and Ablaut do not pose significant problems for the LSW, allomorphy, lengthening and truncation require some attention because the sort of phonological modification of lexical items that is triggered by derivation is not predicted by the LSW in its present form. Consider, as illustration of the question, the following denominal adjectives, whose morphological analysis is provided to the right of each example:

(3)

- a. *ēstelic* ‘kind, gracious’ [[{ēst} {ēste}][lic]]  
 b. *hieldelic* ‘safe’ [[{hield} {hielde}][lic]]  
 c. *hy:ðelic* ‘suitable, proper’ [[{hy:ð} {hy:ðe}][lic]]  
 d. *sidelic* ‘sober, discreet’ [[{sidu} {side}][lic]]  
 e. *ðyldelelic* ‘patient’ [[{ðyld} {ðylde}][lic]]

Allomorphy can be accounted for, provided that it is productive and results of phonological conditioning, if phonological conditions are added to the morphological template of the LSW. For instance, in the examples in (3), the suffix undergoes allomorphy following a base of derivation ending in alveolar plosive /t, d/ or dental fricative [ð]. Truncation is more problematic because it implies context-free phonological lengthening or shortening and, in the latter case, it often produces bound forms. As such, truncated forms will have to be listed in the lexicon along with stems, if the LSW is to explain derivations on truncated bases. A case in point is provided by the pair *cyne/cyning*. While the full form is found in compounding only, the truncated form *cyne* serves the function of base of affixation and compounding, as is shown, respectively, by (4b) and (4c):

(4)

- a. *cynebænd* ‘diadem’, *cynebearn* ‘royal child’, *cynebōt* ‘king’s compensation’

- b. *cynedōm* ‘royal dignity’, *cynelic* ‘kingly’, *cynelīce* ‘in a kingly manner’  
 c. *cyningfeorm* ‘king’s sustenance’, *cyninggenīdla* ‘great feud’, *cyninggereordu* ‘royal banquet’, *cyningstān* ‘an instrument used in casting dice’

The simplification of double consonants also constitutes truncation. Double consonants including voiceless and voiced plosives, dental fricatives, nasals and laterals are simplified in derivatives like the following ones:

(5)

- |    |                                  |                     |                          |
|----|----------------------------------|---------------------|--------------------------|
| a. | <i>clypnes</i> ‘embrace’         |                     | [{clypp} {clyp}] [nes]   |
| b. | <i>spitel</i> ‘small spade’      |                     | [{spittan} {spite}] [l]  |
| c. | <i>ðecen</i> ‘thatch’            | [{ðeccan} {ðec}]    | [en]                     |
| d. | <i>gesibnes</i> ‘affinity’       |                     | [{sibb} {sib}] [nes]     |
| e. | <i>gebedscipe</i> ‘cohabitation’ |                     | [{bedd} {bed}] [scipe]   |
| f. | <i>sceðnes</i> ‘hurt’            |                     | [{sceððan} {sceð}] [nes] |
| g. | <i>bremung</i> ‘roaring’         |                     | [{bremman} {brem}] [ung] |
| h. | <i>spinel</i> ‘spindle’          | [{spinnan} {spine}] | [l]                      |
| i. | <i>ǣmelnes</i> ‘slackness’       |                     | [{ǣmelle} {ǣmel}] [nes]  |
| j. | <i>eornes I</i> ‘anger’          |                     | [{eorre} {eor}] [nes]    |

As the examples show, the simplification of consonants cannot be explained on the grounds of the phonological context: the double consonant undergoes simplification following and preceding both front and back vowels. Moreover, it is possible to find double consonants in other derivatives of the same affix, including, for instance *beccen* ‘buyer’, *scyttel* ‘bolt’, *unstillnes* ‘agitation’, *ungefremmung* ‘imperfection’, *wearnes* ‘knottness’, etc.

After dealing with formal questions related to pre-derivational inflection, ablaut and phonological modification, the remainder of this section approaches the questions of the degree of complexity of derived nouns and the combinations of affixes that occur in such nominal derivatives. In general, Old English nouns admit the maximum degree of complexity illustrated by *un-ge-sib-sum-nes* ‘discord’. Put differently, Old English does not allow for triple suffixation or prefixation, neither do bound forms combine with bound forms only (Martín Arista 2008). That is, the combinations affix plus affix and stem plus stem do not occur in Old English, which restricts the unit sequences to stem plus affix (*a-drincan* ‘be drowned’), lexeme plus affix (*of-adrincan* ‘drain’) and lexeme plus lexeme (*win-drinc* ‘wine’). Regarding the combination of free lexical items, Torre Alonso (2009) has demonstrated that the restrictions on compounding are the same as the ones on affixation, that is, a maximum of two free forms to the left of the Nucleus of the word. As for the attachment of bound forms to free lexical items, I concur with Martín Arista (2008) on the maximum degree of complexity admitted by Old English word structurē a maximum of two prefield slots (one of which is typically taken up by a free form and, consequently, has been ignored in this analysis) together with a maximum of two postfield slots. In this sense,

there is a general principle of the LSW that requires that core meanings occupy central positions whereas peripheral meanings take up less central ones. The morphological counterpart of this general principle is the morphological rule which stipulates that if free and bound elements are inserted into the Prefield, more separable elements are inserted into PRE2, less separable elements are inserted into PRE1. Additionally, if both morphological slots in the prefield are filled, PRE1 must be taken up by a bound element of the diachronically consistent series of the pure prefixes (de la Cruz 1975): *a-*, *be-*, *ge-*, *for-*, *on-* and *to-*. It is necessary, in spite of these provisions, to determine which bound elements can occupy the available template positions and which combinations occur, to the exclusion of others.<sup>3</sup>

Since the basic choice that bound elements have to make is between the PREFIELD and the POSTFIELD positions, it has to be pointed out that most patterns of affixation comprise a prefix and a suffix and, when the two bound forms are adjacent, the POSTFIELD is clearly favoured with respect to the prefield: 43 patterns of suffix-suffix have been found, whereas the only combination of two prefixes is *un-ge*. Considering the affixes that can occupy the template slots, recursiveness in pre-terminal processes involves eight prefixes (*æ-*, *ed-*, *el-*, *in-*, *on-*, *or-*, *tō-*, and *un-*) and 11 suffixes (*-els*, *-en 1*, *-en 2*, *-end*, *-ere*, *-ett*, *-ing 1*, *-ing 2*, *-ness*, *-scipe*, and *-t*); recursiveness in terminal processes comprises 11 prefixes (*ed-*, *for-*, *in-*, *med-*, *mis-*, *of-*, *on-*, *sam-*, *sin-*, *tō-*, and *un-*) and 13 suffixes (*-en 1*, *-end*, *-ere*, *-estre*, *-ett*, *-icge*, *-incel*, *-ing 2*, *-l*, *-ling*, *-ness*, *-scipe*, *-t*); and five prefixes are attached recursively in both pre-terminal and terminal processes (*ed-*, *in-*, *on-*, *tō-*, and *un-*), while the suffixes *-en 1*, *-end*, *-ere*, *-ett*, *-ing 2*, *-ness*, *-scipe*, and *-t* qualify as recursive in both pre-terminal and terminal processes. This is represented by figure 5:

[PREFIELD 2: *ed-*, *in-*, *on-*, *tō-*, *un-*] [PREFIELD 1: *æ-*, *el-*, *for-*, *med-*, *mis-*, *of-*, *or-*, *sam-*, *sin-*] NUCLEUS [POSTFIELD 1: *-els*, *-en 2*, *-estre*, *-icge*, *-incel*, *-ing 1*, *-l*, *-ling*] [POSTFIELD 2: *-en 1*, *-end*, *-ere*, *-ett*, *-ing 2*, *-ness*, *-scipe*, *-t*]

Figure 5: The centripetal ordering of noun-deriving affixes

The template thus defined not only states semantic compatibility but also determines a centripetal ordering of affixes such that more separable prefixes take up the positions PRE2 and POST2 whereas the less separable prefixes take up PRE1 and POST1. Moreover, the prefixes that occupy the outer positions PRE2 and POSTFIELD 2 can also appear in the inner positions PREFIELD 1 and POST1, but not the other way around. Semantically the more separable prefixes include directionals, telics and negative prefixes, as well as agentive and nominalizing suffixes.

<sup>3</sup> I refer the reader to Martín Arista (fc.-d) regarding the complexity of the morphological distribution of the prefix *ge-*.

## 5. CONCLUSION

This journal article has shown that the formation of nouns by means of affixation in Old English is relatively opaque, as well as considerably recursive. In order to enrich the morphological template of the LSW with information on pre-derivational inflection, ablaut and phonological conditioning, it is necessary either to list formal conditions in the lexicon or to state them in a productive way. The analysis of recursive noun formation has identified more separable and less separable prefixes and allowed for the assignment of template positions to affixes involved in noun formation.

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